

1 **Claims**

2 1. A multi-component sealant applicator comprising a catheter for delivering
3 sealant and a mixing volume within the catheter for mixing sealant multiple sealant
4 components prior to discharge from a distal end of the catheter.

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6 2. An applicator according to claim 1 comprising a dual catheter, each
7 catheter communicating with one of a pair of fluid sealant agent sources.

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9 3. An applicator according to claim 1 wherein one catheter is movably
10 mounted with respect to the other.

11
12 4. An applicator according to claim 1 wherein one catheter is mounted
13 for longitudinal movement within the other.

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15 5. An applicator according to claim 1 comprising a clearing system to
16 clear undesired material from the mixing volume or the vicinity of the
17 mixing volume.

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19 6. An applicator according to claim 5 comprising a dual catheter, each
20 catheter communicating with one of a pair of fluid sealant agent sources
21 wherein one catheter is mounted for longitudinal movement within the
22 other and the inner catheter is usable as a plunger to remove clogs.

23
24 7. An applicator according to claim 2 comprising a stabilizer member to
25 locate one catheter with respect to the other.

26
27 8. An applicator according to claim 4 comprising a stabilizer member to
28 locate one catheter with respect to the other wherein the stabilizer member

1 comprises ring disposed in the outer catheter around the inner catheter and
2 provided with openings for the passage of sealant component.

3
4 *Sub B3*
5 9. An applicator according to claim 2 comprising a reciprocal drive
6 mechanism proximally coupled with the dual catheter to move one catheter
7 longitudinally back and forth with respect to the other.

8 10. An applicator according to claim 9 wherein the drive mechanism
9 comprises a ratchet and pawl.

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11 11. An applicator according to claim 2 provided with graduated markings
12 to indicate the relative position of one catheter with respect to the other.

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14 12. An applicator according to claim 8 comprising a clot clearing
15 mechanism operative to move the stabilizer ring into engagement with a clot
16 to be cleared.

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18 13. An applicator according to claim 12 wherein the clot clearing
19 mechanism comprises a manually actuable trigger.

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21 14. An applicator according to claim 2 wherein the dual catheters have
22 distal tips resiliently deformable to expel clots.

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24 15. An applicator according to claim 2 comprising a cover to close the
25 distal end of the dual catheter.

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27 16. An applicator according to claim 4 wherein the inner catheter
28 comprises multiple lateral openings in the vicinity of its distal end for flow

1 of a sealant component to provide a mixing volume in the outer tip.

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3 17. An applicator according to claim 16 wherein the end of the inner
4 catheter is closed.

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6 *sub B4* 18. An applicator according to claim 2 wherein the proximal ends of the
7 catheters are coupled to sources of sealant components, one catheter being
8 coupled through a flexible gasket allowing for relative movement of the
9 catheters and providing a fluid seal.

10

11 19. A method of applying a multi-component sealant to anatomical
12 surfaces, that are accessible to a catheter, comprising flowing multiple
13 sealant components through a longitudinally compartmented catheter and
14 mixing the components in the catheter immediately prior to discharge.

7 add B5